4 Using MS-DOS Commands

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MS-DOS Commands for Common Tasks

In this chapter, you will learn about the most frequently used MS-DOS commands, what you need to carry out each of them, and how to proceed step-by-step. These MS-DOS commands are the commands that you are going to use so often that they become second nature.

What you learn in this chapter will help you on your own to learn to use all MS-DOS commands.

In the process of starting MS-DOS, some commands are loaded into memory where they stay until you need them. These are the internal commands. You don't need a copy of the MS-DOS Systems diskette in a drive in order to use one of them. The common internal commands and their functions are:

Command:	Function:
COPY	Copying a file
DIR	Finding out what files are on a diskette
TYPE	Looking at a file
RENAME	Changing a file's name
ERASE	Removing a file from a diskette

Most MS-DOS commands require that you have a copy of the MS-DOS Systems diskette in a drive. These are called external commands. The most common external commands and their functions are:

Command:	Function:
FORMAT	Getting a diskette ready for use
DISKCOPY	Copying a diskette
DISKCOMP	Comparing diskettes
COMP	Comparing files

Formatting a Diskette

The FORMAT command prepares a diskette to receive information. You only need to FORMAT a diskette once, when it is new. FORMAT sets up the "tracks" and "sectors" where data is written on the diskette or fixed disk by your computer. FORMAT also checks the diskette or fixed disk to make sure it has no flaws, then creates a directory to find the data you eventually write on it.

Be careful. FORMAT removes all of the information on a diskette or fixed disk. Be sure the diskette you are going to FORMAT does not contain information you want to keep.

What Is Needed

- the MS-DOS diskette

- the diskette you want to format

Procedure

If you have a single diskette drive, MS-DOS instructs you to switch diskettes. Do not remove or replace a diskette until you are told to do so.

1 Load MS-DOS and wait until A> appears.

2 Insert the MS-DOS diskette into drive A.

3 Type:

A>**format b:**

and press the **RETURN** key. If your drive is dual-sided, this creates a diskette for dual-sided use only. To format a diskette that can be used in either a single-sided or double-sided drive, type:

A>**format b:/1**

and press the **RETURN** key.

This message appears on the screen:

Insert new diskette for drive B: and strike any key
when ready

4 FOR TWO DRIVES: Insert the new diskette into drive B and press any key.

WITH ONE DRIVE: When the drive A light goes off, remove the MS-DOS diskette from drive A, insert the new diskette into drive A, and press any key.

5 While the diskette is being formatted,

Formatting ...

appears on the screen. After the procedure is finished, you see:

Formatting ... Format complete

362496 bytes total disk space
362496 bytes available on disk

Format another (Y/N)?

NOTE: The number of bytes on the disk may vary depending upon the version of MS-DOS or your computer.

6 If you have more diskettes to format, type **Y** for yes and repeat the above steps.

To stop formatting, type **N** for no. The MS-DOS prompt appears and you can remove the newly formatted diskette.

If you include /s after the command FORMAT, MS-DOS copies the system files to the target diskette as well as formatting the diskette. This type of FORMAT command is entered as:

A>**format b:/s**

The result is a disk that starts MS-DOS directly. If you add system files to a formatted diskette, the screen shows:

```
362496 bytes total disk space
 43008 bytes used by system
319488 bytes available on disk
```

NOTE: The number of bytes on the disk may vary depending upon the version of MS-DOS or your computer.

Finding Out What Files Are On a Diskette

The DIR command displays the names and file statis-
tics of the files on a diskette. When you are looking
for a specific file and you don't know on which of your
diskettes it is found, the internal DIR command helps
you find what you are looking for.

What Is Needed

- the diskette whose file directory you want to check

If MS-DOS is already in memory, you don't need the
MS-DOS diskette for this procedure.

Procedure

1 Make sure MS-DOS is ready and A> is displayed.

2 Insert the diskette you want to check into drive A.

3 Type the command:

A>**dir**

and press the **RETURN** key.

4 The following is displayed on the screen:

- the volume label of the diskette (if it has one)

- the name of the directory that is being listed

- the directory's files — one line is displayed for each file with this information:
  - filename
  - extension
  - size (in bytes)
  - date and time that information was last written in the file

- the amount of free space left on the diskette (in bytes)

5 When all the files have been displayed, A> appears.

NOTES: If the screen is scrolling too fast for you to read the files, use **CTRL S** or **CTRL NUM LOCK** to stop it.

To print what appears on the screen, use the **SHIFT** and **PRT SC** keys.

If you type the DIR command with a /P modifier (DIR/P — /P means Page), the directory display halts as soon as the screen is full. Press any key to resume the listing.

If you type the command modifier /W (DIR/W — /W means Wide), only the file names are displayed, five to a line across the screen. This lets you look at a large directory at a glance.

Copying a Diskette

ALWAYS make backup copies of your important diskettes.

This is a rule that every computer user learns the hard way. To prevent the bother of having to re-do hours of work or replace vital programs, make copies of your files and put them away for a rainy day.

The DISKCOPY command makes a backup copy of an entire diskette on another diskette. As we told you in Chapter 1, it's a good idea to make backups of your program diskettes as soon as you get them. Use the backups for daily work.

NOTES: The date and time shown with a directory entry are the date and time of the last addition or change to that file. The date and time are not changed when you use the DISKCOPY command.

Use the internal command COPY to move files from a fixed disk to a diskette.

What Is Needed

- the MS-DOS diskette

- the original — or source — diskette

- the blank — or target — diskette that's going to become the backup copy

NOTE: If the backup diskette you use is not blank, but has files on it, all of these old files are wiped out during the procedure. That's because DISKCOPY makes an exact duplicate of the original onto the backup.

Procedure

If you have one diskette drive, MS-DOS treats it as both drive A and B. Switch diskettes each time MS-DOS tells you to exchange diskettes.

1 Load MS-DOS and wait for A> to appear.

2 Insert the MS-DOS diskette into drive A.

3 Type:

A>**diskcopy a: b:**

and press the **RETURN** key.

4 WITH TWO DRIVES: This message appears:

> Insert source diskette in drive A:
> Insert formatted target diskette in drive B:
> Strike any key when ready

Remove the MS-DOS diskette, insert the source diskette into drive A and the target diskette into drive B. Press any key when ready.

WITH ONE DRIVE: This message appears:

> Insert source diskette in drive A:
> Strike any key when ready

Remove the MS-DOS diskette that is in drive A (unless you are making a backup of this diskette). Insert your source diskette into drive A and press any key.

5 WITH TWO DRIVES: You'll notice that the lights on drives A and B go on and off as the copying proceeds. Do not open either drive door at any time during the process. DISKCOPY is complete when the following appears:

Copying complete

Copy another (Y/N)?

WITH ONE DRIVE: The in-use light comes on while the source diskette is being read. When the computer has read the entire source diskette (or as much of it as can fit in memory), this is displayed:

Insert target diskette in drive A:
Strike any key when ready

Remove the source diskette, insert the target diskette, and press any key. The light is on while the backup copy is being written. Depending on the amount of memory in your computer, the message in display above may reappear. You may be required to repeat this diskette exchange process several times until you see:

Copying complete

Copy another (Y/N)?

6 If you have more diskettes to copy, type **Y** for yes and follow the steps again.

If you are finished, type **N** for no.

When the A> appears, remove the backup diskette, prepare an appropriate label, apply the label to the diskette and store it in its paper sleeve.

Comparing Diskettes

The DISKCOMP command makes sure that the backup diskette you've just made was copied accurately. In most cases the DISKCOPY command discovers any problems while it is performing the copy, but sometimes there is no warning that something has not worked out just right. The DISKCOMP command compares the source and destination disks to make sure they are exact duplicates. It is a good idea, particularly with important data files or valuable programs, to double check by using the DISKCOMP command.

What Is Needed

- the MS-DOS diskette

- the original diskette

- the new backup diskette

Procedure

If you have one drive, MS-DOS treats it as both drive A and B. Switch diskettes each time MS-DOS tells you to exchange diskettes.

For this procedure, the source or original diskette is the first diskette, and the destination or backup is the second diskette.

1 Load MS-DOS and wait for A> to appear.

2 Insert the MS-DOS diskette into drive A.

3 Type:

A>**diskcomp a: b:**

and press the **RETURN** key.

4 WITH TWO DRIVES: This message appears:

Insert first diskette in drive A:
Insert second diskette in drive B:
Strike any key when ready

Insert the first diskette into drive A, the second diskette into drive B, and press any key.

WITH ONE DRIVE: This message appears:

Insert first diskette in drive A:
Strike any key when ready

Remove the MS-DOS diskette from drive A, insert the source (original) diskette into drive A, and press any key.

5 WITH TWO DRIVES: The drive lights go on and off as the computer makes comparisons between the two diskettes. Do not open the drive doors during this process. When the process is complete, the following message appears:

```
A) diskcomp a:b:
Insert first diskette in drive A:
Insert second diskette in drive B:
Strike any key when ready
Comparing 2 side(s), 9 sectors per track

Compare Error(s)
Drive: B:   Track: 0   Side: 0

Compare Error(s)
Drive: B:   Track: 0   Side: 1

Compare Error(s)
Drive: B:   Track: 1   Side: 0

Compare Error(s)
Drive: B:   Track: 1   Side: 1

A>
```

WITH ONE DRIVE: The drive light comes on while the source diskette is being read, and then this message is displayed:

```
Insert second diskette in drive A:
Strike any key when ready
```

Remove the source diskette from drive A, insert the target (backup) diskette into drive A, and press any key.

The light comes on once again while the backup diskette is being compared.

Depending on the amount of memory in your computer, you may have to switch the diskettes several times until this message appears:

Diskettes compare ok

Compare more diskettes (Y/N)?

6   If you have more diskettes to compare, type **Y** for yes and repeat the procedure.

If you don't want to compare any more diskettes, type **N** for no.

You don't have to press the **RETURN** key. After the MS-DOS prompt appears you can remove the diskette(s) from the drive(s).

If the diskettes are not identical, go through the copying and comparing procedures again. If the diskettes do not compare successfully, use another target diskette. The first target diskette is probably bad and should be re-formatted. Format the troublesome diskette, then repeat the copy and compare procedures once again.

If this last attempt does not solve the problem, discard the bad diskette and use another one.

Copying a File

Use the COPY command when you want to copy one file instead of an entire diskette.

Sometimes copying a single file to a target disk is a good way of archiving your work. You might want to keep all of your backup copies of specific types of files on a special archive diskette. All the company memos are copied to the "Company Memos" diskette, your travel expense records are copied to the "T&E" diskette, etc. In another case, database files on a fixed disk should be copied onto archival diskettes after every update of the information in the entire file. The internal COPY command is the one to use.

NOTE: The date and time shown with each directory entry are not changed during a COPY.

What Is Needed

- MS-DOS loaded into your computer's memory

- the diskette that contains the file you want to copy (the source diskette)

- the diskette that is to receive the copy of the file (the target diskette)

Be careful. If files already exist on the backup diskette, COPY does not disturb these old files as long as their names aren't the same as files being copied. If you do copy a new file onto a diskette with an old file of the same name, the old file will be replaced.

If you COPY onto a diskette with other files, make sure in advance there is enough space (in bytes) left to hold the new file(s).

NOTES: The COPY command also lets you merge two or more files into a single target file. Refer to Chapter 5 for more information about merging files with the COPY command.

Use the COPY command with two wild cards (COPY A:*.* B:) to move all the files from a well-used diskette to a fresh one. COPY places each file on the target disk one after the other. The source disk can then be erased to recover space on the disk to receive new files.

Procedure

If you have one diskette drive, MS-DOS treats it as both drive A and drive B. Switch diskettes each time MS-DOS tells you to exchange diskettes.

1 Load MS-DOS and wait for the A> to appear.

2 Remove the MS-DOS diskette and insert the source diskette into drive A.

3 WITH TWO DRIVES: Insert the target diskette into drive B. Type:

A>**copy** <**filename**> **b:**(<**newfilename**>)

and press the **RETURN** key.

NOTES: The filename of the copy can be either the same as the original or given a new name.

Make sure you put in spaces where indicated in the command.

WITH ONE DRIVE: Enter the command:

A>**copy** <**filename**> **b:**

and press the **RETURN** key.

4 WITH TWO DRIVES: Wait until the screen message in Step 5 appears.

WITH ONE DRIVE: This message appears:

Insert diskette for drive B:
and strike any key when ready

Remove the source diskette from the drive, insert a
formatted target diskette, and press any key.

Depending on the size of your computer's memory you
may have to switch the diskettes several times to com-
plete the procedure.

5   When the copy has been made, the following appears:

    1 File(s) copied

    A>

Remove the backup diskette from the drive, label it
with a felt-tip pen, and store both diskettes in paper
sleeves in a safe place.

Comparing Files

The COMP command lets you know that the file or group of files you just copied to a backup diskette is identical to the source file(s).

It is a good idea to check to make sure your archival copy of a file is the same as the original, particularly if the information in that file is important. Sometimes the diskette that you are copying files onto may have, or may have developed, a flaw since the last time you used it. The external COMP command checks to make sure your COPY command was successful.

This is different from the DISKCOMP command because COMP works on individual files rather than complete diskettes. COMP is faster than DISKCOMP.

What Is Needed

- the MS-DOS diskette

- the diskette containing the original file (the source)

- the diskette containing the copied file (the target)

Procedure

If you have one diskette drive, MS-DOS treats it as both drive A and B. Switch diskettes each time MS-DOS tells you to exchange diskettes.

1 Load MS-DOS and wait for A> to appear.

2 Insert the MS-DOS diskette into drive A if it isn't there already.

3 Type:

A>**comp** <**filename**> **b:**

and press the **RETURN** key.

If you get the message:

Insert diskette for drive A:
and strike any key when ready

insert the diskette to be compared and press any key.

4 When this message appears:

Enter primary file specification

remove the MS-DOS diskette from drive A, insert your
source diskette into drive A, and enter the file's name
from the source diskette, like this:

A>**a:**<**filename**>

Press the **RETURN** key.

5 The next message to appear is:

Enter secondary file specification

Enter the name of the file you copied to the backup
diskette:

A>**b:**<**filename**>

6 WITH TWO DRIVES: Insert the target diskette into drive B (the original should already be in drive A) and press the **RETURN** key. The names of the files being compared are displayed.

WITH ONE DRIVE: With the source diskette in drive A, press the **RETURN** key. Shortly, this message appears:

Insert diskette for drive B:
and strike any key when ready

Remove the source diskette from drive A, insert the backup diskette into drive B, and press any key.

If the size of the files being compared is very large, you may have to switch diskettes several times and repeat steps 3 and 6. The files are placed in memory and some files may be larger than the portion of memory allocated during the compare process.

7 When the files have been compared and found to be identical, this message appears:

Files compare ok

Compare more files (Y/N)?

8 If you have more files to compare, type **Y** for yes and repeat the procedure.

If you are finished, type **N** for no.

The MS-DOS prompt is displayed and you can go on with the next operation.

If the files are not identical, a number of advisory messages appear on the screen, and the COMP program stops. Go through the copying and comparing steps again.

Looking at a File

The TYPE command lets you display the contents of a file on your screen. You may want to do this when you are uncertain about which file you want to do some work on. The internal TYPE command lets you quickly review the text of a file to check if it is the one you want. This way, you don't have to start another program (for example, a word processor) in order to check the contents of a file.

If you use the TYPE command with a program file, the results displayed on your screen may not be understandable. Because program files contain control characters or are in a format best used by a computer rather than read by a person, the contents of these files often are best examined by using the programming language with which they were created. Experimenting with program files and the TYPE command does not harm the program file, but you may need to RESET your computer to continue.

What Is Needed

- the diskette with the file you want to display

  If MS-DOS is already loaded into your computer's memory, you don't need your MS-DOS diskette for this procedure.

Procedure

1 Make sure MS-DOS is ready and wait for A> to appear.

2 Insert the diskette into drive A.

3 Enter the name of your file with the command:

A>**type** <**filename**>

Press the **RETURN** key.

4 The command just entered and the file contents are now displayed.

To stop the scrolling hold **CTRL** and press **NUM LOCK**. Press any key to resume scrolling.

5 When A> reappears, you can remove the diskette.

Changing a File Name

The RENAME command lets you change a file's name — its filename, extension, or both. You may want to change a filename to more closely identify the contents of a file that started out to be one thing, but ended up another. Other times, the RENAME command can be used to identify groups of files with common attributes.

Another way of renaming a file is to use the COPY command. The command syntax is the same as RENAME, the difference being that you then have two copies of a file, one with the original name on one diskette, and another with the new name on another (or the same) diskette or fixed disk drive.

What Is Needed

- the diskette with the file you want to rename

  If MS-DOS is already loaded, you don't need the MS-DOS diskette for this procedure.

Procedure

1 Make sure MS-DOS is ready and the A> appears.

2 Insert the diskette into drive A, if it's not already there.

3 Enter the command, plus the name of the old and new file name:

A>**rename** <**old filename**> <**new filename**>

Press the **RETURN** key.

NOTE: The current filename is first, followed by a space, and then the new filename.

4 Once the operation is finished, the MS-DOS prompt reappears. Remove the diskette from the drive and replace it in the paper sleeve.

Removing a File from a Diskette

Be careful with this command. Once a file has been ERASEd, it is gone forever from that diskette or fixed disk drive.

The ERASE command and the DELete command are identical. You can use one or the other and the file or files specified are removed from the directory. Make sure that ERASEing a file is what you want to do.

Be very careful about using the ERASE or DELete commands when using wild card characters.

It is a good idea to "clean up" your diskettes from time to time. Remove obsolete or duplicate files to make more room for new files. Also, if a diskette has had a lot of activity — files added and removed — the amount of space on the diskette may be broken into a number of 'empty' spots too small to receive new files. See the COPY command for a tip on recovering small spaces on a diskette.

NOTE: Use this command with great care. Always dou- ble check your typed entries before pressing the **RETURN** key. Once ERASEd, a file cannot be retrieved.

What Is Needed

- the diskette with the file you want to erase

  If MS-DOS is already in your computer's memory, you don't need the MS-DOS diskette for this procedure.

Procedure

1 Make sure MS-DOS is ready and the A> prompt appears on the screen.

2 Insert the diskette with the file you plan to erase into drive A.

3 Enter the command, plus the name of the file to be deleted:

A>**erase** <**filename**>

Check your typed entry.

Press the **RETURN** key.

4 Shortly, the A> reappears. Remove the diskette from the drive, relabel it, and return it to its paper sleeve.

Processing a Series of Commands Automatically

MS-DOS allows you to create a file containing a series of MS-DOS commands that are immediately performed, one after another. This is called batch processing and the files used are called batch files.

You could use a batch file to start other programs on a diskette or to perform some routine startup tasks that you usually do whenever you turn on your computer. If you want your computer to do some regular task each time you turn it ON or whenever you restart it with the **ALT CTRL** and **DEL** keys, you create a file called AUTOEXEC.BAT.

The AUTOEXEC.BAT File

Whenever you power ON or restart your computer, MS-DOS looks on the startup drive for a file named AUTOEXEC.BAT. This file must be on the default drive. If you are using a two-diskette system, the file must be in drive A. If you have a computer with a fixed disk drive, MS-DOS looks on the fixed disk for AUTOEXEC.BAT. When found, MS-DOS automatically performs each of the commands in the file.

For example, you can redirect information being sent to the default printer port (LPT#1) over to a serial communications port (COM1:), then run a BASIC program called INVOICING with the following AUTOEXEC.BAT file:

```
MODE COM1:12,N,8,1,P
MODE LPT1:=COM1
BASIC INVOICING.BAS
```

The first line invokes the MS-DOS MODE command and defines the setup parameters for the serial printer attached to the serial port COM1:.

The second line uses the MODE command to redirect output from the parallel printer port LPT1: to COM1.

The third line loads BASIC from the default diskette then loads the program called INVOICING.

NOTES: When you modify the AUTOEXEC.BAT file MS-DOS does not prompt you for the date and time entries unless you include the DATE and TIME commands in the file.

An AUTOEXEC.BAT file may contain only one command or long series of commands.

See Chapter 6, **Batch Processing Commands,** for more information.

Helpful Hints

- Make backup copies of your important program and data diskettes regularly. Always date the label.

- Print a directory frequently and store the listing with the diskette.

- If a command does not work as it should:

  1. Check your typing.
  2. Make sure you have the correct diskette in the correct drive.
  3. Check the directory of the diskette with the DIR command.
  4. Make sure colons and spaces have been included where they should be and not where they don't belong.
  5. Make sure the filename is correctly spelled and includes the extension where appropriate.

- If a command still does not work the way you expect it to, refer to Chapter 5, **MS-DOS Commands,** for more information about that command.